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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,499	09/30/2003	Theodore C. Tanner JR.	MS1-1349US	8575

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EXAMINER	
GELAGAY, SHEWAYE	

ART UNIT	PAPER NUMBER
2437	

NOTIFICATION DATE	DELIVERY MODE
09/30/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lhptoms@leehayes.com

Office Action Summary	Application No.	Applicant(s)	
	10/676,499	TANNER ET AL.	
	Examiner	Art Unit	
	SHEWAYE GELAGAY	2437	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 May 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22 and 46-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22 and 46-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Applicant's response filed on May 26, 2009. Applicant's request for reconsideration of the restriction requirement mailed on 5/11/09 on the grounds that each grouping is not independent and distinct is persuasive. Therefore, the restriction requirement has been withdrawn. Claims 1-22 and 46-54 are pending.

Response to Arguments

2. Applicant's arguments filed 1/21/09 and 1/26/09 with respect to 35 U.S.C. 102(b) rejection have been fully considered and are persuasive. The rejection under 35 U.S.C. 102(b) has been withdrawn.

3. The rest of Applicant's arguments with respect to the rejection of 35 U.S.C. 103 have been fully considered but they are not persuasive. In response to the Applicant's arguments the following comments are made:

4. The Applicant argued that "the Examiner goes on to cite the Signal Transformation of Cox as "interfering with the clear reception of the subject input stream, thereby hindering the detection by the detector." The signal itself is being transferred by Cox. This is not the same as the interfering with the reception of the signal, as recited by the claim. The Examiner respectfully disagrees. Firstly, the term "interfering with clear reception" is broadly recited and includes anything that interferes with the clear reception including transforming the signal. According to the online Compact Oxford English Dictionary "interfere is defined as *handle or adjust without*

permission or *intervene without invitation or necessity*." Furthermore, Cox teaches some general methods for tampering with watermarks and describes a variety of possible attacks including attacks by affine transformation, attacks by noise addition, attacks by digital compression, exploiting the presence of a watermark detector device, attacks based on the presence of a watermark inserter, attacks by statistical averaging, and attacks on the copy control mechanism. Therefore, Cox teaches "interfering with the clear reception of the subject input stream" (i.e. an attacker may not have precise knowledge of the watermark. Nevertheless, he usually has access to a detector and the detector provides information about whether a certain piece of content contains a watermark or not. An attacker may not wish to remove the vary watermark that the content owner has embedded, which may have been adapted according to a particular perceptual model. He only desires to extract a pattern that cancels the effect that the present watermark has on the detector. (see pages 7-13; Signal Transformation and Intentional Attacks)

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-22 and 46-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Felten et al. "Reading Between the Lines: Lessons from the SDMI

Challenge" USENIX, August 13-17, 2001 in view of Cox et al. "Some general methods for tampering with waterparks" IEEE , 1998, pages 1-15.

As per claims 1, 8-9 and 16-17:

Felten teaches a processor-readable medium having processor-executable instructions that, when executed by a processor, performs a method comprising: determining where a dynamic embedded-signal detection program module ("detector") receives a subject input stream for the detector to perform detection thereon to determine if the stream has an embedded-signal therein; (Abstract; 1. Introduction; 3.1 Attack and Analysis of Technology A; 5. conclusion) In addition, Felten discloses refining attacks to introduce distortions. Felten fails to explicitly disclose interfering with clear reception of the subject input stream, thereby hindering detection by the detector. Cox in analogous art, however, teaches interfering with clear reception of the subject input stream, thereby hindering detection by the detector. (5. Signal Transformation) Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the system disclosed by Felten with Cox in order to examine to what extent a watermark can be resistant to tampering to a variety of possible attacks. (Cox Abstract)

As per claims 2, 10 and 18:

The combination of Felten and Cox teaches all the subject matter as discussed above. In addition Felten further teaches observing the detector in a processor-readable memory of a computer to determine its location in such memory. (3.1 Attack and Analysis of Technology A)

As per claims 3, 11 and 19:

The combination of Felten and Cox teaches all the subject matter as discussed above. In addition Cox further teaches wherein the interfering comprises adjusting "play-rate" of the incoming stream. (5. Signal Transformation)

As per claim 4-5, 12-13 and 19-20:

The combination of Felten and Cox teaches all the subject matter as discussed above. In addition Cox further teaches wherein the interfering comprises introducing a countersignal into the incoming stream. (5. Signal Transformation)

As per claim 6, 14 and 21:

The combination of Felten and Cox teaches all the subject matter as discussed above. In addition Cox further teaches maintaining the interfering while the input stream is being consumed. (5. Signal Transformation)

As per claims 7, 15 and 22:

The combination of Felten and Cox teaches all the subject matter as discussed above. In addition Cox further teaches wherein the type of the subject input stream is selected from a group consisting of image, audio, video, multimedia, software, metadata, and data. (5. Signal Transformation)

As per claims 46 and 53:

Felton teaches a computer-readable storage medium having computer-executable instructions that, when executed by a computer, performs a method for facilitating circumvention of watermark detection, the method comprising:

determining where, in a processor-readable memory, a dynamic watermark detection program module ("watermark detector") receives a subject input stream for the watermark detector to perform watermark detection thereon to determine if the subject input stream has a watermark therein; (Abstract; 1. Introduction; 3.1 Attack and Analysis of Technology A; 5. conclusion)

observing the watermark detector in the processor-readable memory of a computer to determine its location in such memory; (Abstract; 1. Introduction; 3.1 Attack and Analysis of Technology A; 5. conclusion)

In addition, Felten discloses refining attacks to introduce distortions. Felten fails to explicitly disclose interfering with clear reception of the subject input stream, thereby hindering detection by the watermark detector, wherein the interfering comprises adjusting "play-rate" of the input stream. Cox in analogous art, however, teaches interfering with clear reception of the subject input stream, thereby hindering detection by the watermark detector, wherein the interfering comprises adjusting "play-rate" of the input stream. (5. Signal Transformation and 6. Intentional attacks) Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the system disclosed by Felten with Cox in order to examine to what extent a watermark can be resistant to tampering to a variety of possible attacks. (Cox Abstract)

As per claims 47 and 52-54:

Felton teaches a method of facilitating circumvention of dynamic, robust, embedded-signal detection, the method comprising:

observing a dynamic embedded-signal detection program module ("dynamic detector") in a processor-readable memory of a computer configured to dynamically detect watermarks in an input stream, based upon the observing, determining a location where, in the processor- readable memory, the dynamic detector receives a subject incoming stream for the dynamic detector to perform embedded-signal detection thereon to determine if the subject incoming stream has an embedded-signal therein. (Abstract; 1. Introduction; 3.1 Attack and Analysis of Technology A; 5. conclusion)

In addition, Felten discloses refining attacks to introduce distortions. Felten fails to explicitly disclose interfering with clear reception of the subject incoming stream, thereby hindering embedded-signal detection by the dynamic detector, wherein the interfering comprises adjusting "consumption-rate" of the incoming stream. Cox in analogous art, however, teaches interfering with clear reception of the subject incoming stream, thereby hindering embedded-signal detection by the dynamic detector, wherein the interfering comprises adjusting "consumption-rate" of the incoming stream. (5. Signal Transformation and 6. Intentional attacks) Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the system disclosed by Felten with Cox in order to examine to what extent a watermark can be resistant to tampering to a variety of possible attacks. (Cox Abstract)

As per claim 48:

Felton teaches a system for facilitating circumvention of dynamic, robust, embedded-signal detection, the system comprising: a memory-location determiner configured to determine where, in a memory, an embedded-signal detection program

module ("detector" receives a subject input stream for the detector to perform detection thereon to determine if the subject input stream has an embedded-signal therein and further configured to observe the detector in a processor-readable memory of a computer to determine its location in such memory. (Abstract; 1. Introduction; 3.1 Attack and Analysis of Technology A; 5. conclusion) In addition, Felten discloses refining attacks to introduce distortions. Felten fails to explicitly disclose an interferer configured to interfere with clear reception of the subject input stream, thereby hindering detection by the detector, wherein the interfering comprises adjusting the incoming rate for the input stream. Cox in analogous art, however, teaches an interferer configured to interfere with clear reception of the subject input stream, thereby hindering detection by the detector, wherein the interfering comprises adjusting the incoming rate for the input stream. (5. Signal Transformation and 6. Intentional attacks) Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the system disclosed by Felten with Cox in order to examine to what extent a watermark can be resistant to tampering to a variety of possible attacks. (Cox Abstract)

As per claims 49 and 50-51:

Felton teaches a computer-readable storage medium medium having computer-executable instructions that, when executed by a computer, performs a method for facilitating circumvention of watermark detection, the method comprising:

determining where, in a memory, a dynamic watermark detection program module ("watermark detector") receives a subject input stream for the watermark detector to perform watermark detection thereon to determine if the

subject input stream has an embedded-signal therein. (Abstract; 1. Introduction; 3.1 Attack and Analysis of Technology A; 5. conclusion) In addition, Felten discloses refining attacks to introduce distortions. Felten fails to explicitly disclose interfering with clear reception of the subject input stream, thereby hindering watermark detection by the watermark detector, wherein the interfering comprises introducing a countersignal, the countersignal modifying the reception by introducing a noise countersignal. Cox in analogous art, however, teaches interfering with clear reception of the subject input stream, thereby hindering watermark detection by the watermark detector, wherein the interfering comprises introducing a countersignal, the countersignal modifying the reception by introducing a noise countersignal. (5. Signal Transformation and 6. Intentional attacks) Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the system disclosed by Felten with Cox in order to examine to what extent a watermark can be resistant to tampering to a variety of possible attacks. (Cox Abstract)

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHEWAYE GELAGAY whose telephone number is (571)272-4219. The examiner can normally be reached on 8:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on 571-272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. G./
Examiner, Art Unit 2437

/Emmanuel L. Moise/

Supervisory Patent Examiner, Art Unit 2437

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